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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,609	02/19/2004	Tatsuo Nakajima	1761.1054	3180

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EXAMINER	
JOYCE, WILLIAM C	
ART UNIT	PAPER NUMBER
3682	
MAIL DATE	DELIVERY MODE
07/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/780,609	NAKAJIMA ET AL.	
	Examiner	Art Unit	
	William C. Joyce	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *3,4,6,8 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,7 and 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Election filed April 24, 2007 for the above identified patent application.

Election/Restrictions

1. Claims 3, 4, 6, 8, and 9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 24, 2007.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura (USP 5,302,893).

Yoshimura discloses a magnetic encoder which comprises: a multi-pole magnet (12) having a plurality of opposite magnetic poles alternating in a direction circumferentially thereof; and a core(11) for supporting the multi-pole magnet; said multi-pole magnet containing a powdery magnetic material mixed in an amount within the range of 35 to 65 vol.% relative to the total volume of the multi-pole magnet (column 3, lines 58-60).

Yoshimura does not disclose the core as a metal, however forming the core as a nonmagnetic metal, such as aluminum, would have been within the skill of one in the art. It would have been obvious to one in the art to form the core of Yoshimura from aluminum, motivation being to form a relatively inexpensive and light core member.

4. Claims 1, 2, 5, 7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuki et al. (USP 6,692,153) in view of at least one of Yoshimura (USP 5,302,893) or Kojima et al. (USP 6,235,129).

Ohtsuki et al. discloses a wheel support bearing assembly for supporting a wheel for rotation relative to a vehicle body, said wheel support bearing assembly comprising: an outer member (2) having an inner peripheral surface formed with a plurality of first raceways; an inner member (1) having a corresponding number of second raceways defined therein in alignment with the first raceways in the outer member; rows of rolling elements rollingly received in part within the first raceways and in part within the second raceways, said wheel bearing assembly comprises; a sealing unit for sealing an annular bearing space delimited between the outer member and the inner member, said sealing unit including a first sealing plate (11) of a generally L-sectioned configuration mounted on one of the outer and inner members which serves as a rotatable member, and a second sealing plate (12) of a generally L-sectioned configuration mounted on the other of the outer and inner members which serves as a stationary member, and positioned in face-to-face relation with the first sealing plate, said first sealing plate defining the core metal of a magnetic encoder (14) and having a cylindrical axial wall and a radial upright

wall; and an elastic sealing member (16) including a side sealing lip (16a) and at least one radial sealing lip (16b-c), said elastic sealing member being secured to the second sealing plate with the side sealing lip slidingly engaging the radial upright wall of the first sealing plate and with the at least one radial sealing lip slidingly engaging the cylindrical axial wall; wherein the encoder is mounted on the radial upright wall of the first sealing plate.

Ohtsuki et al. further discloses the encoder comprising a multi-pole magnet having a plurality of opposite magnetic poles alternating in a direction circumferentially thereof; and the core metal of the first seal plate for supporting the multi-pole magnet; said multi-pole magnet formed of a sintered powdery magnetic material having samarium (column 21, lines 30-43).

Ohtsuki et al. does not disclose the mixing ratio of the powdery magnetic material, however it was known in the art to mix a powdery magnetic material in the claimed ratio to form an encoder.

For example, the prior art to Yoshimura discloses a magnetic encoder comprising a multi-pole magnet containing a powdery magnetic material mixed in an amount within the range of 30 to 80 vol.% relative to the total volume of the multi-pole magnet (column 3, lines 58-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the a multi-pole magnet encoder of Ohtsuki et al. with 35 to 65 vol.% of magnetic material, as taught by Yoshimura, motivation being to provide a reliable sensor for measuring the rotation of the wheel hub.

In a second example, the prior art to Kojima et al. discloses a magnetic material that can be used to form an encoder (column 8, lines 23-26), the magnetic material comprising a powdery samarium material mixed in an amount within the claimed range of 20 to 90 vol.% relative to the total volume of the multi-pole magnet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the a multi-pole magnet encoder of Ohtsuki et al. with the claimed vol.% of magnetic material, as taught by Kojima et al., motivation being to provide a reliable sensor for measuring the rotation of the wheel hub.

Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to mix the magnetic material as defined in the claims, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William C. Joyce 7/5/07